

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A system for monitoring a temperature ~~condition~~ conditions, comprising:

a fiber optic cable;

a light emitting device coupled to said fiber optic cable and configured to input a light pulse into said fiber optic cable;

an optical receiver coupled to said fiber optic cable and configured to receive a reflection signal that arises from said input light pulse in said fiber optic cable; and

a processor configured to determine ~~a temperature condition along~~ temperature conditions on different portions of the fiber optic cable ~~and a location of the temperature condition along the fiber optic cable~~ based on said reflection signal, said determination being based on a comparison performed for each of said different portions of the fiber optic cable.

Claim 2 (Currently Amended): The system of claim 1, wherein said processor is configured to determine said temperature conditions ~~condition and location~~ based on an amplitude ~~and return time~~ of said ~~return~~ reflection signal.

Claim 3 (Currently Amended): The system of claim 1, wherein said comparison is performed with respect to ~~processor is configured to determine said temperature condition based on at least one of~~ a threshold value corresponding to one of said portions ~~and a comparison signal.~~

Claim 4 (Currently Amended): The system of claim 3, wherein said processor is configured to adjust ~~at least one of~~ said threshold value ~~and comparison signal~~ to detect different temperature conditions.

Claim 5 (Currently Amended): The system of claim 1, wherein said processor is configured to determine a location for one of said ~~different~~ portions of the fiber optic cable based on ~~different~~ a return times time of said reflection signal.

Claim 6 (Cancelled)

Claim 7 (Currently Amended): The system of claim 6 34, wherein said processor is configured to adjust ~~each of said corresponding at least one of said threshold value and said~~ comparison signal to detect different temperature conditions among said different portions of the fiber optic cable.

Claim 8 (Currently Amended): The system of claim ~~4~~ 5, wherein said processor is configured to determine said location by determining at least one of a location relative to an overall length of the fiber optic cable, and an absolute distance from one end of the fiber optic cable.

Claim 9 (Original): The system of claim 1, wherein said processor is configured to determine at least one of a temperature duration and a temperature progression over a predetermined time interval.

Claim 10 (Original): The system of claim 1, further comprising a signal generator configured to initiate at least one of an alarm, a safety measure and a corrective measure.

Claim 11 (Currently Amended): A system for monitoring a temperature ~~condition~~
conditions, comprising:

a fiber optic cable;
means for inputting a light pulse into said fiber optic cable;
means for receiving a reflection signal that arises from said input light pulse in said
fiber optic cable; and

means for determining ~~a temperature condition along~~ temperature conditions on
different portions of said the fiber optic cable ~~and a location of the temperature condition~~
~~along the fiber optic cable~~ based on said reflection signal, said means for determining
including means for performing a comparison for each of said different portions of the fiber
optic cable.

Claim 12 (Currently Amended): The system of claim 11, further comprising means
for determining said temperature conditions ~~condition and location~~ based on an amplitude
~~and return time~~ of said ~~return~~ reflection signal.

Claim 13 (Currently Amended): The system of claim 11, further comprising means
for determining said temperature ~~condition~~ conditions based on at least one of a threshold
value and a comparison signal corresponding to one of said portions.

Claim 14 (Currently Amended): The system of claim 13, further comprising means
for adjusting ~~at least one of~~ said threshold value ~~and comparison signal~~ to detect different
temperature conditions.

Claim 15 (Currently Amended): The system of claim 11, further comprising means for determining a location for one of said ~~different~~ portions of the fiber optic cable based on ~~different~~ a return times time of said reflection signal.

Claim 16 (Cancelled)

Claim 17 (Currently Amended): The system of claim ~~16~~ 13, further comprising means for adjusting ~~each of said corresponding at least one of said threshold value and said~~ comparison signal to detect different temperature conditions ~~among said different portions of the fiber optic cable.~~

Claim 18 (Currently Amended): The system of claim ~~14~~ 15, further comprising means for determining said location by determining at least one of a location relative to an overall length of the fiber optic cable, and an absolute distance from one end of the fiber optic cable.

Claim 19 (Original): The system of claim 11, further comprising means for determining at least one of a temperature duration and a temperature progression over a predetermined time interval.

Claim 20 (Original): The system of claim 11, further comprising means for generating a signal to initiate at least one of an alarm, a safety measure and a corrective measure.

Claim 21 (Currently Amended): A computer readable medium containing program instructions for execution on a computer controlled system for monitoring a temperature

~~condition~~ conditions, which when executed by the system, cause the system to perform the following steps:

input a light pulse into a fiber optic cable of the system;
receive a reflection signal that arises from said input light pulse in said fiber optic cable; and
determine ~~a temperature condition along~~ temperature conditions on different portions of the fiber optic cable ~~and a location of the temperature condition along the fiber optic cable~~ based on said reflection signal, said determination being based on a comparison performed for each of said different portions of the fiber optic cable.

Claim 22 (Currently Amended): The computer readable medium of claim 21, wherein said program instructions further cause said system to determine said temperature conditions ~~condition and location~~ based on an amplitude ~~and return time~~ of said ~~return~~ reflection signal.

Claim 23 (Currently Amended): The computer readable medium of claim 21, wherein said program instructions further cause said system to determine said temperature ~~condition~~ conditions based on at least one of a threshold value and a comparison signal corresponding to one of said portions.

Claim 24 (Currently Amended): The computer readable medium of claim 23, wherein said program instructions further cause said system to adjust ~~at least one of~~ said threshold value ~~and comparison signal~~ to detect different temperature conditions ~~in said fiber optic cable.~~

Claim 25 (Currently Amended): The computer readable medium of claim 21, wherein said program instructions further cause said system to determine a location for one of said different portions of the fiber optic cable based on ~~different~~ a return times time of said reflection signal.

Claim 26 (Cancelled)

Claim 27 (Currently Amended): The computer readable medium of claim ~~26~~ 23, wherein said program instructions further cause said system to adjust ~~each of said~~ ~~corresponding at least one of said threshold value and~~ said comparison signal to detect different temperature conditions ~~among said different portions of the fiber optic cable.~~

Claim 28 (Currently Amended): The computer readable medium of claim ~~24~~ 25, wherein said program instructions further cause said system to determine said location by determining at least one of a location relative to an overall length of the fiber optic cable, and an absolute distance from one end of the fiber optic cable.

Claim 29 (Currently Amended): The computer readable medium of claim 21, wherein said program instructions further cause said system to determine at least one of a temperature duration and a temperature progression of said temperature ~~condition~~ conditions over a predetermined time interval.

Claim 30 (Original): The computer readable medium of claim 21, wherein said program instructions further cause said system to generate a signal to initiate at least one of an alarm, a safety measure and a corrective measure.

Claim 31 (New): The system of claim 1, wherein the said processor is configured to detect and recognize a temperature increase, said temperature increase being characteristic of a faulty escape of air from an aircraft pipe system.

Claim 32 (New): The system of claim 31, wherein said aircraft pipe system is a pressurized air system configured to deliver hot pressurized bleed air from an aircraft engine.

Claim 33 (New): The system of claim 1, wherein a break of said fiber optic cable is detectable with an end reflection signal, a portion of said cable between said break and said optical receiver remaining functional for monitoring a temperature condition.

Claim 34 (New): The system of claim 1, wherein said comparison is performed with respect to a comparison signal corresponding to one of said portions.

Claim 35 (New): The system of claim 3, wherein different thresholds are allocated to different portions of the fiber optic cable.

Claim 36 (New): The system of claim 3, wherein different thresholds are allocated to different ranges of a transit time of said reflection signal.